

Task-7

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Level 0:

The goal of this level is for you to log into the game using SSH. The host to which you need to connect is **bandit.labs.overthewire.org**, on port 2220. The username is **bandit0** and the password is **bandit0**. Once logged in, go to the Level 1 page to find out how to beat Level 1.

```
sujith@sujith-VirtualBox:~$ ssh -p 2220 bandit0@bandit.labs.overthewire.org
This is a OverTheWire game server. More information on http://www.overthewire.org/wargames
bandit0@bandit.labs.overthewire.org's password:
Linux bandit.otw.local 5.4.8 x86_64 GNU/Linux

          _.-.
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www.----ver-----he-----ire.org

Welcome to OverTheWire!
If you find any problems, please report them to Steven or morla on
irc.overthewire.org.

--[ Playing the games ]--
This machine might hold several wargames.
If you are playing "somegame", then:
* USERNAMES are somegame0, somegame1, ...
* Most LEVELS are stored in /somegame/.
* PASSWORDS for each level are stored in /etc/somegame_pass/.

Write-access to homedirectories is disabled. It is advised to create a
working directory with a hard-to-guess name in /tmp/. You can use the
command "mktemp -d" in order to generate a random and hard to guess
directory in /tmp/. Read-access to both /tmp/ and /proc/ is disabled
so that users can not snoop on eachother. Files and directories with
easily guessable or short names will be periodically deleted!

Please play nice:
* don't leave orphan processes running
* don't leave exploit-files laying around
* don't annoy other players
* don't post passwords or spoilers
* again, DONT POST SPOILERS!
  This includes writeups of your solution on your blog or website!

--[ Tips ]--
This machine has a 64bit processor and many security-features enabled
by default, although ASLR has been switched off. The following
compiler flags might be interesting:
-m32          compile for 32bit
-fno-stack-protector  disable ProPolice
-Wl,-z,norelro  disable relro

In addition, the execstack tool can be used to flag the stack as
executable on ELF binaries.

Finally, network-access is limited for most levels by a local
firewall.

--[ Tools ]--
For your convenience we have installed a few usefull tools which you can find
in the following locations:
* gef (https://github.com/hugsy/gef) in /usr/local/gef/
* pwndbg (https://github.com/pwndbg/pwndbg) in /usr/local/pwndbg/
* peda (https://github.com/longld/peda.git) in /usr/local/peda/
* gdbinit (https://github.com/Gdbinit/Gdbinit) in /usr/local/gdbinit/
* pwntools (https://github.com/Gallopsled/pwntools)
* radare2 (http://www.radare.org/)
* checksec.sh (http://www.trapkit.de/tools/checksec.html) in /usr/local/bin/checksec.sh

--[ More information ]--
For more information regarding individual wargames, visit
http://www.overthewire.org/wargames/
For support, questions or comments, contact us through IRC on
irc.overthewire.org #wargames.
```

Level 1:

The password for the next level is stored in a file called **readme** located in the home directory. Use this password to log into bandit1 using SSH. Whenever you find a password for a level, use SSH (on port 2220) to log into that level and continue the game.

```
bandit0@bandit:~$ ls
readme
bandit0@bandit:~$ cat readme
boJ9jbbUNNfktd7800psq0ltutMc3MY1
bandit0@bandit:~$  
  
sujith@sujith-VirtualBox:~$ ssh -p 2220 bandit1@bandit.labs.overthewire.org
This is a OverTheWire game server. More information on http://www.overthewire.org/wargames  
  
bandit1@bandit.labs.overthewire.org's password:
Linux bandit.otw.local 5.4.8 x86_64 GNU/Linux


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```

Level 2:

The password for the next level is stored in a file called - located in the home directory.

```
bandit1@bandit:~$ ls  
-  
bandit1@bandit:~$ cat ./-  
CV1DtqXWVFXTvM2F0k09SHz0YwRINYA9  
bandit1@bandit:~$ █
```

Level 3:

The password for the next level is stored in a file called **spaces in this filename** located in the home directory.

```
sujith@sujith-VirtualBox:~$ ssh -p 2220 bandit2@bandit.labs.overthewire.org
This is a OverTheWire game server. More information on http://www.overthewire.org/wargames

bandit2@bandit.labs.overthewire.org's password:
Permission denied, please try again.
bandit2@bandit.labs.overthewire.org's password:
Linux bandit.otw.local 5.4.8 x86_64 GNU/Linux
```

```
bandit2@bandit:~$ ls  
spaces in this filename  
bandit2@bandit:~$ cat spaces\ in\ this\ filename  
UmHadQclWmgdLOKQ3YNgjWxGoRMb5luK  
bandit2@bandit:~$
```

Level 4:

The password for the next level is stored in a hidden file in the **inhere** directory.

```
sujiith@sujiith-VirtualBox:~$ ssh -p 2220 bandit3@bandit.labs.overthewire.org
This is a OverTheWire game server. More information on http://www.overthewire.org/wargames
```

```
bandit3@bandit.labs.overthewire.org's password:
Linux bandit.otw.local 5.4.8 x86_64 GNU/Linux
```



```
bandit3@bandit:~$ ls
inhere
bandit3@bandit:~$ cd inhere
bandit3@bandit:~/inhere$ ls
bandit3@bandit:~/inhere$ ls -a
. .. .hidden
bandit3@bandit:~/inhere$ cat .hidden
pIwrPrtPN36QITSp3EQaw936yaFoFgAB
bandit3@bandit:~/inhere$
```

Level 5:

The password for the next level is stored in the only human-readable file in the **inhere** directory.
Tip: if your terminal is messed up, try the “reset” command.

Level 6:

The password for the next level is stored in a file somewhere under the **inhere** directory and has all of the following properties:

- human-readable
 - 1033 bytes in size
 - not executable

Level 7:

The password for the next level is stored **somewhere on the server** and has all of the following properties:

- owned by user bandit7
- owned by group bandit6
- 33 bytes in size

```
sujith@sujith-VirtualBox:~$ ssh -p 2220 bandit6@bandit.labs.overthewire.org
This is a OverTheWire game server. More information on http://www.overthewire.org/wargames
bandit6@bandit.labs.overthewire.org's password:
Linux bandit.otw.local 5.4.8 x86_64 GNU/Linux

  

www. ver he tre.org

bandit6@bandit:~$ ls
bandit6@bandit:~$ find . -size 33c -group bandit6 -user bandit7
bandit6@bandit:~$ find / -user bandit7 -group bandit6 -size 33c
find: '/root': Permission denied
find: '/home/bandit28-git': Permission denied
find: '/home/bandit30-git': Permission denied
find: '/home/bandit5/inhere': Permission denied
find: '/home/bandit27-git': Permission denied
find: '/home/bandit29-git': Permission denied
find: '/home/bandit31-git': Permission denied
find: '/lost+found': Permission denied
find: '/etc/ssl/private': Permission denied
find: '/etc/polkit-1/localauthority': Permission denied
find: '/etc/lvm/archive': Permission denied
find: '/etc/lvm/backup': Permission denied
find: '/sys/fs/pstore': Permission denied
find: '/proc/tty/driver': Permission denied
find: '/proc/11918/task/11918/fd/6': No such file or directory
find: '/proc/11918/task/11918/fdinfo/6': No such file or directory
find: '/proc/11918/fd/5': No such file or directory
find: '/proc/11918/fdinfo/5': No such file or directory
find: '/cgroup2/csessions': Permission denied
find: '/boot/lost+found': Permission denied
find: '/tmp': Permission denied
find: '/run/lvm': Permission denied
find: '/run/screen/S-bandit1': Permission denied
find: '/run/screen/S-bandit10': Permission denied
find: '/run/screen/S-bandit29': Permission denied
find: '/run/screen/S-bandit25': Permission denied
find: '/run/screen/S-bandit30': Permission denied
find: '/run/screen/S-bandit9': Permission denied
find: '/run/screen/S-bandit28': Permission denied
find: '/run/screen/S-bandit18': Permission denied
find: '/run/screen/S-bandit20': Permission denied
find: '/run/screen/S-bandit12': Permission denied
find: '/run/screen/S-bandit5': Permission denied
find: '/run/screen/S-bandit7': Permission denied
find: '/run/screen/S-bandit16': Permission denied
find: '/run/screen/S-bandit26': Permission denied
find: '/run/screen/S-bandit8': Permission denied
find: '/run/screen/S-bandit15': Permission denied
find: '/run/screen/S-bandit4': Permission denied
find: '/run/screen/S-bandit3': Permission denied
find: '/run/screen/S-bandit19': Permission denied
find: '/run/screen/S-bandit31': Permission denied
find: '/run/screen/S-bandit17': Permission denied
find: '/run/screen/S-bandit2': Permission denied
find: '/run/screen/S-bandit22': Permission denied
find: '/run/screen/S-bandit21': Permission denied
find: '/run/screen/S-bandit14': Permission denied
find: '/run/screen/S-bandit13': Permission denied
find: '/run/screen/S-bandit24': Permission denied
find: '/run/screen/S-bandit23': Permission denied
find: '/run/shm': Permission denied
find: '/run/lock/lvm': Permission denied
find: '/var/spool/bandit24': Permission denied
find: '/var/spool/cron/crontabs': Permission denied
find: '/var/spool/rsyslog': Permission denied
find: '/var/tmp': Permission denied
find: '/var/lib/apt/lists/partial': Permission denied
find: '/var/lib/polkit-1': Permission denied
/var/lib/dpkg/info/bandit7.password
find: '/var/log': Permission denied
find: '/var/cache/apt/archives/partial': Permission denied
find: '/var/cache/ldconfig': Permission denied
bandit6@bandit:~$ cat /var/lib/dpkg/info/bandit7.password
HKBPTKQnIay4Fw76bEy8PVxKEDQRKTzs
bandit6@bandit:~$ █
```

Level 8:

The password for the next level is stored in the file **data.txt** next to the word **millionth**.

```
sujith@sujith-VirtualBox:~$ ssh -p 2220 bandit7@bandit.labs.overthewire.org
This is a OverTheWire game server. More information on http://www.overthewire.org/wargames
```

```
bandit7@bandit.labs.overthewire.org's password:
Linux bandit.otw.local 5.4.8 x86_64 GNU/Linux
```



```
bandit7@bandit:~$ ls
data.txt
bandit7@bandit:~$ cat data.txt
```

```
complement's      MCWy3WxEeWqckXZ5G4Sp950Y36l2F5fJ
grape      g00pwTz0lzUZ6ss3pijp0z709LAhPxu
Blaine     k61r0I4u0D2PMEXLd2RDxQWIE8tACyst
canonization's   7ITrZvFVsjujBHVlu4gfcHbW1gWQUcN
reserve     AH03PedgUR05aCaQVGVFQRgY2oR1SBYh
Zanuck      30KRL0QjnCq5DyqNZePHAD6tCzbVjt1f
baritone     XSodKcCza05ckkLyP4uXwrjIVaCzKcpq
lineman's     Gh8HTLmWxnXJxZF4DzhuiRpV8xejb6yw
aquas       RkI4EWYAjHPMexRTY9Rq7vQtjhiKgZw
swaddled      snDpr6ve7nuPsjBoTGLrmpOYomdhVzAH
garishness's   UbK1yZ2nC02GEjArlASLw0bT8jg0p9rx
Benny's      QQkZrdiFs47KckVLi5ifsFqtLcRxyjvZ
regulated      sxJ8HT73fvZMMIicL50nhawcrsYGuWP
knottting      vh268WJXw10Snszed9MVaHD4rTP69lZr
hymnals       7MqsN32lfDbPigtAX6cwFbMZcPAMUoae
Fremont      tCy02wC8xdpFqjlZ8xdBQYAHFZPHk7ls
punter's      zAfzaA1IOuBSamCR6eMmRoc9oNXPQ16a
junking       6Tlr5K8YZ1d2Xsdku3TTFYXWB6WOMXyT
Aymara       zSeUS0UyD8Q6a6YPwaClRBbk1x8kFBEc
waned        gl59r6xvewh5y8t0mgInHtCUMG8S6Id
conceded      TWLUptX3HbwD4qsYOQ9sENOnOiNy79sC
kilned        kLjrgoJvftIyUyotu0I4cxFcxFxbC6aS
Santayana     KKn1I4fuWdzKyvffp1aYrBDzQa3Tr3Pk
Antigua       dRyNiegAg0OkCgrKVQFXMXS06vFArL55
heyday        UAGwMlFzylGa4fHpQZEelUQEZ5JlUpyx
praiseworthiness's   bjRB0uGXm4dH7ip9hHB3mbFBMMwLNKNq
separatism    p2167YTCJseAv4YhLZNb2fs7Jiv1DLUW
plan         PLz4ZXwX02fEe4oMd1I78wQXl4MIMxTf
confrontation KlHScgMgzyBQYxBXkxsjKcQ2A5erDIjL
briquet's     aHc51xHj1t3ANF7jH26dd7mHWBfd8VKz
encapsulate    ST0VYQEMWtFz54JtjJRrhDXgZcfVw8ls
wildfowls     PqcMofjmKj8NBv09exdu7FY2NG6WUMzb
Finland      xgXsIYgqUCMrMot7W2dSwTG1DCvbRvU
bandit7@bandit:~$ grep "millionth" data.txt
millionth     cvX2JJa4CFALtqs87jk27qwqGhBM9plV
bandit7@bandit:~$
```

Level 9:

The password for the next level is stored in the file **data.txt** and is the only line of text that occurs only once.

```
bandit8@bandit:~$ ls
data.txt
bandit8@bandit:~$ ls -a
. . . . .bash_logout .bashrc data.txt .profile
bandit8@bandit:~$ cat data.txt
VkBAAEWyIibVkeURZV5mowiGg6i3m7Be0
zdd2ctVveR0GeiS2WE3TeLZMeL5jL7iM
sYSokIATVvFUKU4sAHTtMarfjlZWWj5i
ySvsTwlMgnUF0n86Fgmn2TNjks0lrV72
NLWvtQvL7EaqBNx2x4eznRlQONULLCYZ
LfrBHfAh0pP9bgGAZP4QrVkut3pysAYC
J0NYdD3wHZKpfEg9qGQOLJimAJy6qxhs
flyKxCbHB8uLTaIB5LXqQNuJj3yj00eh
TThRArdF2ZEXM047TIkyPPLtvzzLcDf
cIPbot7oYveUPNxDMhv1hiri50CqpkTG
kJTBMD8k90HyXwZ2aJMQkV23u0gyuoIO
J6Lzp6ZqTJsOuJRTXcvhwKfM0KK3Xtbl
NLWvtQvL7EaqBNx2x4eznRlQONULLCYZ
0N65ZPpNGkUJePzFxctCRZRXVrCbUGfm
SHMAMUEzQe4mV7SJpETTZFsyNRJsZE2k
I3fc578VLa7m0Q1t9zArPP0PY7aDVBCJ
8jtZmvqp9PTi8tp1oybBM663NQH3fhII
1ETSSk gjfQj1cJeFzXLJWzKzza3iWcJa
bRnktwNdxFy2RPZIshXJikswwEzJGvJ9
0Xo6DLyK5izRqEtBA7sW2SRmlAixWYsg
iIaOHQG7ZLdimomwMQuaGIF7vib1RmXBh
e3Db4Mi5uHMdTpEylEg1N1cmwuvcxFcdet
```

```
bandit8@bandit:~$ sort data.txt | uniq -c
 10 07KC3ukwX7kswl8Le9ebb3H3sOoNTsR2
 10 0efnqHY1ZTNRu4LsDX4D73DsxEQq7RuJ
 10 0N65ZPpNGkUJePzFxctCRZRXVrCbUGfm
 10 0Xo6DLyK5izRqEtBA7sW2SRmlAixWYSg
 10 10XitczY5Dz7UMoseKIEfWSzzwQrylfw
 10 1ETSSkqjfQj1cJeFzXLJWzKzza3iWcJa
 10 1T6aw9T32d71cS3TTvwmpVp1WsxFED79T
```

10 UASwOCQwd0MkZtLw0rATgyLBKvCvNtBEP
10 UJiCNvDNfgb3fcCj8PjjnAXHqUM63Uyj
10 UjsVbcqKeJqdCZQCDMkzv6A9X7hLbNE4
1 UsvVyFSfZZWbi6wgC7dAFyFuR6jQQUhR
10 UVnZvhivQEcrAz5jl8U14sMVZQhjuXia
10 V2d9umHiuPLYLIDsuHj0frOEmrreCZMaA
10 v9zaxkVAodI0lITZY2uoCtB1fx2gml9y9
10 VkBAEWyIibVkeURZV5mowiGg6i3m7Be0

Level 10:

The password for the next level is stored in the file **data.txt** in one of the few human-readable strings, preceded by several '=' characters.

```
bandit9@bandit:~$ ls -a
. . . . . bash_logout .bashrc data.txt .profile
bandit9@bandit:~$ cat data.txt
♦L♦lw;♦♦B♦l♦GX♦NdT$♦♦x7♦@D@♦♦+D♦B♦M♦Z/, _♦W♦#♦5♦
ÿ♦e♦&♦-♦♦U♦6Q8♦J♦%fa♦
♦np♦6l
| c♦WW"♦8♦f♦
♦VJ♦$♦S-♦d♦
    ♦p♦k♦U♦;♦v♦Am♦H♦t♦3♦(♦E'
        ♦!♦:♦UP♦U♦g♦
!♦'♦
    t♦!P♦
        p
            ♦q♦<(♦^5♦|♦-r♦B♦m♦;♦D5♦1♦
                c♦D^♦!♦`♦P♦KT♦5♦?)X♦欄F♦]♦2♦J♦-5♦|P♦rL{♦
>♦'.♦.9♦c♦?♦D.♦\♦UU,L♦},♦
                )♦W[b♦
♦7<[E2Qk)♦>Q♦G♦nW([♦>♦L♦[♦W-♦Gw♦Jp_♦PT♦E}]-♦
                    ♦
♦
v♦7♦[d4♦[♦Eeed{s♦5♦d!♦*.♦d♦d♦$6♦1Td♦=♦{♦a♦
                0♦C♦r♦A♦G♦1~♦趨♦b♦2%0`c♦*♦!`3r♦/♦Z♦j♦x♦L♦}♦$♦x?X♦7♦
kj♦H♦點`♦&
                0♦9♦.♦J♦//M$♦a^♦;yzEt!♦WpU-e♦Rn,I♦MT♦B$1♦,♦2a|`{9♦V♦姫♦G♦7♦4@[♦tk45♦hob♦
♦Q♦o♦`<♦L♦VSxDKi♦um♦m♦\WB{|,♦x♦vd♦T♦XIY.}♦M&F♦,♦f♦RV{♦l♦#@^S♦Jp`E0%♦~
♦?/♦^♦P8Iq9d
♦r-49♦G|Q♦n♦R♦Cm♦p♦~♦{♦r'♦H(-♦-r♦Z♦s♦x♦z♦)+a5♦g♦|A♦x♦*♦_f♦^♦[Ro♦+0Q♦f♦3,U♦tG♦y♦*
        0♦GhG♦the*2i"4♦d♦k♦D
♦I♦Y♦i♦3_6z♦;`♦G♦G♦J♦;Y♦ä♦?♦+♦.♦k♦7B♦L♦N♦%|♦欄♦
pu♦OMd♦H
6♦x♦&♦I(n♦
z♦>♦5♦G♦C♦
♦3CA♦[♦9♦hCx♦類n*]Y♦
♦\P♦0Z♦}I♦A♦J♦`♦
    (♦I♦%♦u5♦X♦sG♦87♦$Q♦k♦I♦6!♦/♦
```

```
bandit9@bandit:~$ strings data.txt | grep "="
===== the*2i"4
=:G e
===== password
<I=zsgI
Z)===== is
A=|t&E
Zdb=
c^ LAh=3G
*SF=s
&===== truKLdjsbJ5g7yyJ2X2R0o3a5HQJFuLk
S=A.H&^
bandit9@bandit:~$
```

Level 11:

The password for the next level is stored in the file **data.txt**, which contains base64 encoded data.

Level 12:

The password for the next level is stored in the file **data.txt**, where all lowercase (a-z) and uppercase (A-Z) letters have been rotated by 13 positions.

```
bandit11@bandit:~$ ls  
data.txt  
bandit11@bandit:~$ cat data.txt  
Gur cnffjbeq vf 5Gr8L4qetPEsPk8htqjhRK8XSP6x2RHh  
bandit11@bandit:~$
```

For Using ROT13:

The screenshot shows the BAKE! tool interface. On the left, there's a sidebar with a 'Recipe' section containing a 'ROT13' entry. Under 'ROT13', three checkboxes are shown: 'Rotate lower case chars' (checked), 'Rotate upper case chars' (checked), and 'Rotate numbers' (unchecked). A dropdown menu labeled 'Amount' shows the value '13'. In the center, the 'Input' section displays the command 'Gur cnffjbeq vf 5Gr8L4qetPEsPk8htqjhRK8XSP6x2RHh'. Above the input, status information is provided: start: 48, end: 48, length: 48, and lines: 1. To the right of the input is a toolbar with various icons. Below the input is the 'Output' section, which shows the result of the rotation: 'The password is 5Te8Y4drgCRfCx8ugdwuEX8KFC6k2EUu'. Above the output, status information is provided: start: 48, time: 1ms, end: 48, length: 48, and lines: 1. To the right of the output is another toolbar with various icons. At the bottom left, there's a 'STEP' button and a large green 'BAKE!' button. To the right of the 'BAKE!' button is a checked checkbox labeled 'Auto Bake'.

Level 13:

The password for the next level is stored in the file **data.txt**, which is a hexdump of a file that has been repeatedly compressed. For this level it may be useful to create a directory under /tmp in which you can work using mkdir. For example: mkdir /tmp/myname123. Then copy the datafile using cp, and rename it using mv (read the manpages!).

```
suji@suji-VirtualBox:~$ ssh -p 2220 bandit12@bandit.labs.overthewire.org
This is a OverTheWire game server. More information on http://www.overthewire.org/wargames

bandit12@bandit.labs.overthewire.org's password:
Linux bandit.otw.local 5.4.8 x86_64 GNU/Linux

www. ver he ire.org

bandit12@bandit:~$ ls
data.txt
bandit12@bandit:~$ cat data.txt
00000000: 1f8b 0808 0650 b45e 0203 6461 7461 322e ....P.^..data2.
00000010: 6269 6e00 013d 02c2 fd42 5a68 3931 4159 bin...=...BZh91AY
00000020: 2653 598e 4f1c c800 001e 7fff fbf9 7fda &SY.O.....
00000030: 9e7f 4f76 9fcf fe7d 3fff f67d abde 5e9f ..0v...}?...}...^.
00000040: f3fe 9fbf f6f1 feee bfdf a3ff b001 3b1b .....;;
00000050: 5481 a1a0 1ea0 1a34 d0d0 001a 68d3 4683 T.....4....h.F.
00000060: 4680 0680 0034 1918 4c4d 190c 4000 0001 F....4..LM..@...
00000070: a000 c87a 81a3 464d a8d3 43c5 1068 0346 ...z..FM..C..h.F
00000080: 8343 40d0 3400 0340 66a6 8068 0cd4 f500 .C@.4..@f..h....
00000090: 69ea 6800 0f50 68f2 4d00 680d 06ca 0190 i.h..Ph.M.h....
000000a0: 0000 69a1 a1a0 1ea0 194d 340d 1ea1 b280 ..i.....M4.....
000000b0: f500 3406 2340 034d 3400 0000 3403 d400 ..4.#@.M4...4...
000000c0: 1a07 a832 3400 f51a 0003 43d4 0068 0d34 ...24.....C..h.4
000000d0: 6868 f51a 3d43 2580 3e58 061a 2c89 6bf3 hh..=C%.>X.,.,k.
000000e0: 0163 08ab dc31 91cd 1747 599b e401 0b06 .c....1...GY.....
000000f0: a8b1 7255 a3b2 9cf9 75cc f106 941b 347a ..rU.....u.....4z
00000100: d616 55cc 2ef2 9d46 e7d1 3050 b5fb 76eb ..U.....F..0P..v.
00000110: 01f8 60c1 2201 33f0 0de0 4aa6 ec8c 914f ..`.".3...J....0
00000120: cf8a aed5 7b52 4270 8d51 6978 c159 8b5a ....{RBp.Qix.Y.Z
00000130: 2164 fb1f c26a 8d28 b414 e690 bfdd b3e1 !d....j.(.....
00000140: f414 2f9e d041 c523 b641 ac08 0c0b 06f5 ..//..A.#.A.....
00000150: dd64 b862 1158 3f9e 897a 8cae 32b0 1fb7 .d.b.X?..z..2....
```

```

bandit12@bandit:~$ mkdir /tmp/wolf
bandit12@bandit:~$ cp data.txt /tmp/wolf
bandit12@bandit:~$ cd /tmp/wolf
bandit12@bandit:/tmp/wolf$ ls
data.txt
bandit12@bandit:/tmp/wolf$ xxd -r data.txt
P>^data2.bin=<BZh91AY&SY00000J8v000?00]00^000000040000;00700heF0F004LM
@00z00FM00C0hF0C@04@f00h
        &i
4hh00=C%00>X0,k000100GY00
<J0<0{RBp0Qix0Y0Z!d00j0(0并)00/00A#0A0F000P00v00`0"30
          &d0bX?00z00200<<0A 0n}
5(3A00
  w0eR000060XS{0
<09?L0P0yB00=z0m?0L0Nt*07{qP000%"w90qm400 N306000K00H納[00]!
 )<S:<0H0t&/0(<0000]00BB9<s &h=bandit12@bandit:/tmp/wolf$ file data.txt
data.txt: ASCII text
bandit12@bandit:/tmp/wolf$ xxd -r data.txt > data
bandit12@bandit:/tmp/wolf$ ls
data data.txt
bandit12@bandit:/tmp/wolf$ file data
data: gzip compressed data, was "data2.bin", last modified: Thu May  7 18:14:30 2020, max compression, from Unix
bandit12@bandit:/tmp/wolf$ man xxd
bandit12@bandit:/tmp/wolf$ rm data
bandit12@bandit:/tmp/wolf$ ls
data.txt
bandit12@bandit:/tmp/wolf$ man xxd
bandit12@bandit:/tmp/wolf$ xxd -r data.txt newfile
bandit12@bandit:/tmp/wolf$ ls
data.txt newfile
bandit12@bandit:/tmp/wolf$ file newfile
newfile: gzip compressed data, was "data2.bin", last modified: Thu May  7 18:14:30 2020, max compression, from Unix
bandit12@bandit:/tmp/wolf$ man mv
bandit12@bandit:/tmp/wolf$ mv newfile newfile.gz
bandit12@bandit:/tmp/wolf$ ls
data.txt newfile.gz
bandit12@bandit:/tmp/wolf$ man gzip
bandit12@bandit:/tmp/wolf$ gzip -d newfile.gz
bandit12@bandit:/tmp/wolf$ ls
data.txt newfile
bandit12@bandit:/tmp/wolf$ file newfile
newfile: bzip2 compressed data, block size = 900k
bandit12@bandit:/tmp/wolf$ mv newfile newfile.bz2
bandit12@bandit:/tmp/wolf$ ls
data.txt newfile.bz2
bandit12@bandit:/tmp/wolf$ man bzip
No manual entry for bzip
bandit12@bandit:/tmp/wolf$ man bzip2
bandit12@bandit:/tmp/wolf$ bzcat newfile.bz2
P>^data4.bin=<H000F:t0E0D4)rgriKPZ0RNp0H03(Sq 000Ej0LRL000tM5000=+öZ00Y000y000000~00(00{S-0z0u0z|00h
D0Uk(dE: 0X<0e00u00#0ke00{000000000C0+<0000T0.bber00000h$00300"0|j0jT8Y0R00Q000a0000#00|0Q0Q09+綜
3a00#U*#%0000qq30$000
%0U0y~,tz0xS0406d0kBC00=ome0"00kGdEo?n0,mo000S060B00T0[00\fI~0c.0ü*0:X000Cm0k000,000
*
  &Pbandit12@bandit:/tmp/wolf$ ls
data.txt newfile.bz2
bandit12@bandit:/tmp/wolf$ man bzip2
bandit12@bandit:/tmp/wolf$ bzip2 -d newfile.bz2
bandit12@bandit:/tmp/wolf$ ls
data.txt newfile
bandit12@bandit:/tmp/wolf$ file newfile
newfile: gzip compressed data, was "data4.bin", last modified: Thu May  7 18:14:30 2020, max compression, from Unix
bandit12@bandit:/tmp/wolf$ man gzip
bandit12@bandit:/tmp/wolf$ mv newfile newfile.gz
bandit12@bandit:/tmp/wolf$ ls
data.txt newfile.gz
bandit12@bandit:/tmp/wolf$ gzip -d newfile.gz
bandit12@bandit:/tmp/wolf$ ls
data.txt newfile
bandit12@bandit:/tmp/wolf$ file newfile

```

```
bandit12@bandit:/tmp/wolf$ man tar
bandit12@bandit:/tmp/wolf$ mv newfile newfile.tar
bandit12@bandit:/tmp/wolf$ ls
data.txt  newfile.tar
bandit12@bandit:/tmp/wolf$ tar -x newfile.tar
tar: Refusing to read archive contents from terminal (missing -f option?)
tar: Error is not recoverable: exiting now
bandit12@bandit:/tmp/wolf$ tar -f newfile.tar
tar: You must specify one of the '-Acdtrux', '--delete' or '--test-label' options
Try 'tar --help' or 'tar --usage' for more information.
bandit12@bandit:/tmp/wolf$ man tar
bandit12@bandit:/tmp/wolf$ tar -A newfile.tar
tar: Options '-Aru' are incompatible with '-f -'
Try 'tar --help' or 'tar --usage' for more information.
bandit12@bandit:/tmp/wolf$ man tar
bandit12@bandit:/tmp/wolf$ tar -x -f newfile.tar
bandit12@bandit:/tmp/wolf$ ls
data5.bin  data.txt  newfile.tar
bandit12@bandit:/tmp/wolf$ file data5.bin
data5.bin: POSIX tar archive (GNU)
bandit12@bandit:/tmp/wolf$ mv data5.bin data5.tar
bandit12@bandit:/tmp/wolf$ ls
data5.tar  data.txt  newfile.tar
bandit12@bandit:/tmp/wolf$ tar -x -f data5.tar
bandit12@bandit:/tmp/wolf$ ls
data5.tar  data6.bin  data.txt  newfile.tar
bandit12@bandit:/tmp/wolf$ file data6.bin
data6.bin: bzip2 compressed data, block size = 900k
bandit12@bandit:/tmp/wolf$ mv data6.bin data6.bz2
bandit12@bandit:/tmp/wolf$ ls
data5.tar  data6.bz2  data.txt  newfile.tar
bandit12@bandit:/tmp/wolf$ bzip -d data6.bz2
-bash: bzip: command not found
bandit12@bandit:/tmp/wolf$ bzip2 -d data6.bz2
bandit12@bandit:/tmp/wolf$ ls
data5.tar  data6  data.txt  newfile.tar
bandit12@bandit:/tmp/wolf$ file data6
data6: POSIX tar archive (GNU)

bandit12@bandit:/tmp/wolf$ mv data6 data6.tar
bandit12@bandit:/tmp/wolf$ ls
data5.tar  data6.tar  data.txt  newfile.tar
bandit12@bandit:/tmp/wolf$ tar -x -f data6.tar
bandit12@bandit:/tmp/wolf$ ls
data5.tar  data6.tar  data8.bin  data.txt  newfile.tar
bandit12@bandit:/tmp/wolf$ file data8.bin
data8.bin: gzip compressed data, was "data9.bin", last modified: Thu May  7 18:14:30 2020, max compression, from Unix
bandit12@bandit:/tmp/wolf$ mv data8.bin data8.gz
bandit12@bandit:/tmp/wolf$ gzip -d data8.gz
bandit12@bandit:/tmp/wolf$ ls
data5.tar  data6.tar  data8  data.txt  newfile.tar
bandit12@bandit:/tmp/wolf$ file data8
data8: ASCII text
bandit12@bandit:/tmp/wolf$ cat data8
The password is 8ZjyCRiBWFYkneahHwxCv3wb2a10RpYL
bandit12@bandit:/tmp/wolf$ █
```

Level 14:

The password for the next level is stored in **/etc/bandit_pass/bandit14** and can only be read by user **bandit14**. For this level, you don't get the next password, but you get a private SSH key that can be used to log into the next level. Note: **localhost** is a hostname that refers to the machine you are working on.

```
sujith@sujith-VirtualBox:~$ ssh -p 2220 bandit13@bandit.labs.overthewire.org
This is a OverTheWire game server. More information on http://www.overthewire.org/wargames

bandit13@bandit.labs.overthewire.org's password:
Linux bandit.otw.local 5.4.8 x86_64 GNU/Linux
```



```
bandit13@bandit:~$ man ssh
bandit13@bandit:~$ ls
sshkey.private
bandit13@bandit:~$ ssh -i sshkey.private bandit14@localhost
Could not create directory '/home/bandit13/.ssh'.
The authenticity of host 'localhost (127.0.0.1)' can't be established.
ECDSA key fingerprint is SHA256:98UL0ZWr85496EtCRkKlo20X30PnyPSB5tB5RPbhczc.
Are you sure you want to continue connecting (yes/no)? yes
Failed to add the host to the list of known hosts (/home/bandit13/.ssh/known_hosts).
This is a OverTheWire game server. More information on http://www.overthewire.org/wargames
```

Linux bandit.otw.local 5.4.8 x86_64 GNU/Linux



```
bandit14@bandit:~$ ls
bandit14@bandit:~$ cat /etc/bandit_pass/bandit14
4wCYUJFw0k0XLShLDzztnTBHiqxU3b3e
bandit14@bandit:~$ █
```

Level 15:

The password for the next level can be retrieved by submitting the password of the current level to **port 30000 on localhost**.

```
bandit14@bandit:~$ nc localhost 30000
4wcYUJFw0k0XLShlDzztnTBHiqxU3b3e
Correct!
BfMYroe26WYalil77FoDi9qh59eK5xNr
```

Bandit 15 accessed!

```
sujith@sujith-VirtualBox:~$ ssh -p 2220 bandit15@bandit.labs.overthewire.org
This is a OverTheWire game server. More information on http://www.overthewire.org/wargames
```

```
bandit15@bandit.labs.overthewire.org's password:
Linux bandit.otw.local 5.4.8 x86_64 GNU/Linux
```

